

REMARKS

Applicants have carefully considered the March 13, 2006 Office Action, and the amendments above together with the comments that follow are presented in a bona fide effort to address all issues raised in that Action and thereby place this case in condition for allowance.

Claims 1-20 are pending in this application. In response to the Office Action dated March 13, 2006, claims 2 and 5 have been amended. Applicants submit that the present Amendment places the application in condition for allowance. The amendment to claims 2 and 5 only corrects an antecedent basis issue. Hence the Amendment does not generate any new matter issue or any new issue requiring any further search and/or consideration. At the very least, the Amendment reduces issues for Appeal, by elimination the basis for an indefiniteness rejection. Accordingly, entry of the Amendment and prompt favorable reconsideration pursuant to 37 C.F.R. § 1.116 are respectfully requested.

With respect to numbered paragraph 3 of the Office action, Applicants have reviewed the specification for the presence of minor errors, but no changes are believed necessary at the present time.

Claims 2, 5-6, 8, 11-12, 14 and 17-18 were rejected under 35 U.S.C. § 112, second paragraph. Applicants respectfully traverse the rejection in view of the foregoing amendments to independent claims 2 and 5. Applicants submit that the foregoing amendments address the Examiner's antecedent basis concerns as stated in numbered paragraphs 5 and 6. Accordingly, one having ordinary skill in the art would not have difficulty understanding the scope of the presently claimed invention, particularly when reasonably interpreted in light of the supporting specification. Therefore, it is respectfully submitted that the imposed rejection of claims 2, 5-6,

8, 11-12, 14 and 17-18 under 35 U.S.C. § 112, second paragraph is not legally viable and hence, Applicants solicit withdrawal thereof.

Claims 1-3 and 5 were rejected under 35 U.S.C. § 102(e) as being anticipated over Stamper et al. (U.S. Pat. No. 6,838,355, hereinafter “Stamper”). Applicants respectfully traverse.

As acknowledged by the Examiner, Stamper was filed in on August 4, 2003. The present application has a priority date of November 29, 2002 which is before the effective filing date of Stamper. Submitted concurrently herewith is an certified English language translation of the Japanese priority document (JP 2002-0347094, filed November 29, 2002). Accordingly, Stamper’s filing date does not qualify as an effective date for prior art purposes under 35 U.S.C. § 102(e). Reconsideration and withdrawal of the rejection are respectfully solicited.

Claims 1-2 were rejected under 35 U.S.C. § 102(e) as being anticipated over Seta et al. (U.S. Pat. No. 6,605,542, hereinafter “Seta”). Applicants respectfully traverse.

Claims 1-6 were rejected under 35 U.S.C. § 102(e) as being anticipated over You et al. (U.S. Pat. No. 6,756,672, hereinafter “You”). Applicants respectfully traverse.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the identical disclosure in a single reference of each element of a claimed invention, such that the identically claimed invention is placed into the possession of one having ordinary skill in the art. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994). Moreover, in imposing the rejection under 35 U.S.C. § 102, the Examiner is required to specifically identify wherein an applied reference is perceived to identically disclose each feature of a claimed invention. *In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221

USPQ 481 (Fed. Cir. 1984). That burden has not been discharged. Moreover, there are significant differences between the claimed inventions and the method disclosed by Seta or You that would preclude the factual determination that Seta or You identically describes the claimed inventions within the meaning of 35 U.S.C. § 102.

Each of independent claims 1, 2, 3 and 5 requires that a two-step chemical mechanical polishing (CMP), which includes the process of removing a part of a normal taper formed in an upper part of the trench, enabling a barrier metal film to be provided before a metal film is formed, and (1) to be provided between a metal film and an insulating film or (2) between a metal film and a sacrificial film. In the first step of CMP, the barrier metal film is used as a CMP stopper.

As disclosed in the present application (Figs. 4C and 4D), the extraneous copper film 221 formed in the area, except the concave, is removed. The second insulating film 207 and the copper film 221 in the taper formed in the upper part of the interconnection trench 217 are then polished and flattened along with the barrier metal film 219, under appropriate CMP conditions.

In contrast, You and Seta merely disclose a conventional Damascene process. The characteristic features of the present application (which are not disclosed or suggested in You or Seta) are that the barrier is formed and the first step of CMP is stopped on the barrier. None of the references discloses or suggests these features. Accordingly, the rejections under 35 U.S.C. § 102(e) are not legally viable since neither of the applied references identically disclose each feature of the claimed inventions. Reconsideration and withdrawal of the rejections 35 U.S.C. § 102 are respectfully solicited.

Dependent claims 7-9, 11, 13-15, 17 and 19-20 were rejected under 35 U.S.C. § 103 for lack of obviousness predicated upon Stamper in view of Sameshima et al. (U.S. Pat. App. Pub.

2003/0203624, hereinafter "Sameshima"). Applicants respectfully traverse. Applicants incorporate herein the arguments previously advanced in traversal of the rejection of claims 1-3 and 5 under 35 U.S.C. § 102(e) predicated upon Stamper. Stamper has been disqualified as a reference with Applicants' submission of a certified English translation of their priority document. The secondary reference to Sameshima does not cure the argued deficiencies of the primary reference. Accordingly, reconsideration and withdrawal of the rejection are solicited.

Dependent claims 7-8, 13-14 and 19-20 were rejected under 35 U.S.C. § 103 for lack of obviousness predicated upon Seta in view of Sameshima. Applicants respectfully traverse.

Dependent claims 7-20 were rejected under 35 U.S.C. § 103 for lack of obviousness predicated upon You in view of Sameshima. Applicants respectfully traverse.

Dependent claims 7-20 are free from the applied art in view of their dependency from their respective independent claims. Applicants incorporate herein the arguments previously advanced in traversal of the rejection of claims 1-6 under 35 U.S.C. § 102(e) predicated upon Seta and You. The secondary reference to Sameshima does not cure the argued deficiencies of the primary references. Thus, even if the applied references are combined as suggested by the Examiner, and Applicants do not agree that the requisite realistic motivation has been established, the claimed invention will not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103 are respectfully solicited.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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